No. 19.

Field Book

of

Willis L. Jepson

1908

If lost finder please return to W. L. Jepson, Dept. of Botany, University of California and receive reward.

Paleobotanical Lit., p. 166.

The running heads in this book — as in all the others — gives the locality for the numbers on a page, unless a special locality is cited under the number.

Berkeley to Los Angeles

July 8, 1908.

Left San Francisco on the day train at 8:00 am. There is a lot to be seen from the train all the while. Towards the upper end of the Salinas valley the Santa Lucia mountain range has spread out the banks of the Salinas River remarkable fan-shaped deltas, perfectly plane but with a tilt towards the mountains which left the whole delta into view from the other side of the valley. One or two of them had been harvested and the contrast with the purple hills was very striking.

Berkeley to Los Angeles
July 8, 08

- Quercus agrifolia - lots of on the hills about and south of Templeton. Both Templeton and Paso Robles are in a strictly hill country. The Live Oaks seem huge some of them. The Valley Oaks in the "pass" at Paso Robles are fine trees - Smithers from Paso Robles.

Shifting sand dunes on the coast near Guadalupe. South were extensive sand hills covered with Lupine, Bigelovia? Baccharis? Artemisia. Probably only along coast.

Catalina Island.
July 11, 1908

No. 3040. Eriogonum giganteum Wats var. giganteum
Bush, freely branching, 8 ft. high, trunk (with roughly broken bark) three inches in diameter. Avalon

- Dendromecon rigidum - 18 ft. 20 ft. h + 1 ft. diam. - So says Mrs. Trask.

No. 3041. Cercocarpus betuloides var. ~~betuloides~~ multiflorus Jepson).
Sheep like it. 28 ft. high, ½ ft. diam. trunk, shaggy bark in bottom of canon. (A clump near, 6 stems, 20 ft. h)

Catalina Island

Re. this, most things that are sometimes conspicuously arborescent have also frequently clumpy representatives. = Var. multiflorus Jepson of Fl. Cal.

No. 3042. Rhamnus crocea Nutt. ssp. pirifolia (Greene) C.B. Wolf ~~tubulosa~~ Greene. 10 ft high and 1/2 to 1 ft. diameter, often also clumpy.

No. 3043. Quercus

Mrs. Trask thinks this distinct, but says Sargent calls it- Quercus dumosa. 25 ft. high and 9 in diam.

July 12, 1908

No. 3044. Prunus ~~integrifolia~~ Lyonii (Eastw.) Sarg.

Also saw a clump of trees above, all from one old root, 5 trunks ranging from 10 to 12 in. diam. at 3 feet above the ground, about 45 feet high. These are certainly and positively trees! See p. 11.

Adenostoma fasciculatum has trunks 1 ft. diam. often says Mrs. Trask.

Catalina Island

- Lymothamnus (floribundus) grows on rocky ledges. Common on this island. Always in sight of the sea. Also on San Clemente Island and really common! Not noticed there previously says Mrs. Trask because not growing near the old landing place. Mrs. Trask regards L. asplenifolius as abundantly distinct; does not think much of the observations of the Brandegees in the matter of proving its identity with L. floribundus.

July 12, 1908

- Quercus McDonaldii - we walked up to the crest and a short distance down one of the southern cañons and came to two trees of this, the trunks standing rather close together at base, diverging somewhat and with truly respectable crowns. Trunks 15 and 20 inches in diam., about 15 feet tall; trees 40 ft. h. These trees I saw in the moonlight. We reached them about 8:45 in the evening. Only trees here. Mrs. Trask regards McDonaldii at this point as very distinct oak. It is, the

Catalina Island

says, "an oak one would never mix with any other. It is so distinct, so marked. It stand right out as an individual thing. I like what Greene says about it. It is a very true and apt account".

- Dendromecon rigidum "a distinct tree with trunk 1 foot in diameter. The crown usually broadcast, especially when large; it cannot hold its head erect". She showed me pictures of these leaning trees. "There are no young Poppy trees on

July 12. 1908

the Island and no seedlings". I think she also said no sprouts (crown).

- Crossosoma, Mrs. Trask also makes out to be a tree, 20 feet high and 6 inches diam. trunk.

- Rhus laurina I notice so far in the usual bush form; occurs in great plenty on the hills

- Heteromeles arbutifolia, common on the hills; berries finer and larger than on mainland.

- Rhus ~~trifoliata~~ integrifolia, quite a tree, very distinct trunk 1 ft. diam. as seen in Mrs. Trask's photos.

Catalina Island

- Xanthium spinosum beginning to come in just a little.
- Nicotiana glauca, beginning to fill the deep cañons.
- Mimulus cardinalis, quite abundant where there is a little water trickle in the bottom of the cañons; but the sheep will touch it!

(see p. 11)

- Mrs. Trask has in her little garden two Lavateras; L. assurgentiflora in fl.; and L. —— from San Clemente, the latter with larger lighter-green leaves than the former. the and only one on San Clemente

July 12, 1908

- Solanum Xanti Wallacei - the great plant (famous) at one Avalon destroyed by the march of improvements.
- Lycium Richii, this famous individual at Avalon, destroyed in similar manner.
- Prunus integrifolia, trunk scars, the bark splits off in squarish areas like blazes on some trunks. I thought this due to injury caused by trunks rolling down hill, but the scars occur on trees where this could not happen
- wind-blown trees, on north end Catalina says Mrs. Trask.

- Cont. from p. 11. Specimen of the San Clemente Island shrub (6 yrs. old) was taken. See no. 14,050.

Swains Cañon
Catalina Isld.

- wind nymed trees, fall of branches often very great after heavy storm.

- Franseria mounds on San Miguel. Low round tents, filling the picture, nothing else. Photo by Mrs. Trask.

- Lyonothamnus asplenifolius on Santa Rosa, San Clemente (& Santa Cruz?)

July 13, 1908.

- Populus trichocarpa, 4 large trees at Swains Landing, mouth of Swains Cañon, one tree 65 feet high and 10 ft. 6 in. in circumference at 4 ft. from the ground. Further up the cañon at the forks are more trees, many of them, taller and more slender than the ones below. No reproduction.

Swain Cañon, Catalina Isld.

No. 3045 Lyonothamnus floribundus Gray

Mrs. Trask says: "Fern-leaved form on Santa Cruz, Santa Rosa and San Clemente, no entire leaves on those trees. Trees in Swain Cañon, two groves, the lower one visited by the Brandegees." This grove is on a sharp hillside about 200 feet above the cañon bottom, trees 20 to 35 feet high, the poles mostly branching in the top only, trunks 3 inches diam and cylindric, after which showing a tendency

L.A. County

July 13, 1908

to become board-like or "triangular" with three board-like wings, the longest diameters being 6 inches to 13 inches in this grove. Only occasional fern-leaves in this grove. Most of the original trees here have been cut and the stand now represents stump-sprouts. Tiny tender shoots are now to be seen about bases of some of the ~~trees~~ stumps. The wood is very strong and was used for fishing poles and canes, etc.

Swain Cañon
Catalina Isld.

Lyonothamnus second grove, Swain Cañon in rocky south hillside very steep hugging into cañon until the upper cluster stands in very bottom of cañon. One pole of this latter cluster is 55 feet high the trunk 3 ft. 2 in. in circumference at 2 feet above the ground; the trunks here flattened as in first grove. We studied this cañon bottom cluster from the summit of the rocks on the cañon wall. The narrow crowns were

July 13, 1908

simply covered with the large panicles of flowers, now a little past their blooming time, altho some panicles are in prime condition. What a sight it must be to see the crowns when snow white with bloom!

In the midst of the forest I noted the bark hanging from the trunk in long shreds, recalling Eucalyptus. Stamen counts, 13, 15, 16, 16, 16 (!). Petals nearly round, crenulate-edged white. Styles 2; stigma capitate.

Swain Cañon

Catalina Isld.

Cont. Branches very slender on main axis, the trunk clearing itself.

Third grove on branch of canon to left of middle canon going up, small grove but a distinct one and trees nearly as tall as in second grove.

— Monterey Pine says Mrs Trask is on Santa Cruz and Santa Rosa Islands, the only difference being the binate leaves, never three leaves.

July 13, 1908

— Adenostoma fasciculatum, dying out badly on the ridges, does not stumps sprout. Stem at base (at least 3 feet) much swollen and tuber-like, the root always big and like a woody bulb. These work loose from the ground say Mrs. Trask, and furnish the wood used for her south shore camp. The chunks do not start to burn readily but when they do burn they last and act like so much coal.

Head of Gallagher's
Catalina Isld.

— Quercus tomentella, their slender poles 40 to 55 feet high stand in clusters of 3 to 10, being stemp sprouts and forming a filled circle Bark gray-brown, smoothish or checked longitudinally forming irregular flat-topped ridges. One tree 46ft 4 in circ at 4 ft., 55 ft. h. & second 6 ft. circ at 3 ft; a third ~~4~~ 5 ft. circ at 3 feet, the two 45 ft. high. All three at the first spring going down canon from the wagon road on crest to the canon mouth, Gallagher's.

See no. 3056

July 13, 1908.

— Stringers of the Honeysuckle (Lonicera hispidula) as big as a cord and 30 to 40 feet long abundantly festooning the oaks in this canon also much larger main cords or trunks of course.

Catalina Island

No. 3046. Cornus glabrata Bth.
Single tree in Judge Bannings
cañon. ~~= C. californica C. A. Mey.~~

No. 3047. Quercus. dumosa

No. 3048. Quercus

No. 3049. Rhus ~~integrifolia~~ laurina Nutt.
Avalon.
"All 3 Rhus sp. may be
ternate" – Mrs. Trask.

No. 3050 Eriophyllum
Avalon

No. 3051. Quercus
15 ft. h. – Swain's

July 12-13, '08.

No. 3052. Quercus dumosa
Low scrub, head of Swain's
Cañon

No. 3053. Salix lasiolepis
Swain's Cañon.

No. 3054. Rhus ~~ovata~~ integrifolia B. & W.
Swain's

No. 3055. Ribes viburnifolium Gray

No. 3056. Quercus tomentella
Santa Catalina See 3 pp. back.

No. 3057. Lonicera hispidula var. calif. See 2 pp back.
Notice the greasy infl. + fruit clusters

No. 3058. Quercus McDonaldii
See 16 pp. back.

Catalina Island

– No one knows so much about Catalina Island as Mrs. Blanche Trask who has been here about 17 years. Before she came "the Wheelers" were here and were the source of information about the vegetation of the island. The Brandegees consulted the Wheelers about the situation of species when they came to look for Lyonothamnus and other rarities. Mrs. Wheeler is now in Los Angeles, I think Mrs Trask said.

For the island as a whole, its rocks, cliffs and cañons, as well as its plants, trees and shrubs this woman has a most remarkable love. It has grown out of her love for its wildness, its inaccessible cliffs, and its great solitudes of crest, and cañon, and sky. She has worked through all its cañons, even on the inaccessible south coast, and beyond "the isthmus", at all times of the year but especially in the winter season. It is so intolerably hot in the dry

July 12-13, 1908.

Catalina Island

season that she hibernates, usually, from May to Sept. or Oct. There is little water on the island, only a few springs which are frequented by the sheep or goats. I have never known anyone anywhere who knows the plants individually over such a large area as she does. She seems to know the individual trees and shrubs like old friends and knows whether they have changed in the last ten years and how much. If a Dendromecon shrub has

July 12-13, 1908.

disappeared from the flood bed of Santa Cruz she misses it and finally locates the old stump. But above all she knows the trees! as if she were bent on spending her life in refutation of the assertion that Catalina has no trees. And then we run across a fine specimen of Quercus tomentella and looking it with tremendous fondness as if it were one of her own children she exclaims, "Oh, what a fine tree! What a

Catalina Island

splendid tree!" The fascination of the island is however not botanical for Mrs. Trask; albeit partly so; it is far more the fascination of solitude. So she loves the other islands as well: San Nicolaus where there is great store of Indian craftwork; Santa Rosa; Santa Cruz; and San Clemente. She says of San Clemente that like the other islands it is drying up and that the Mesembryanthemum will soon take it—

July 12-13, 1908.

i.e. it is rapidly increasing and eventually it will take the place of everything else.

Mrs. Trask has lived so long in the open (she has a camp on the south coast) that in appearance she does not suggest the woman she is, being bronzed by the desert suns. A heavy head of brown, slightly gray above the temples, good features, a happy smile when she is making some grand joke, brown eyes (I think) — she is in her curious shepherd

Catalina Island

like costume, with the blanket and staff or stock for climbing which she always carries, her short skirt scarcely reaching the knees, the lower part of the leg from the knee down encased in leggings of leather – a tall peaked straw hat with broad brim – this costume would be the wonderment of the Avalonians but that she departs on her trips early in the morning when only a few

July 12-13, 1908.

people are astir and returns in the watches of the night. On my first trip with her we walked up through the Banning residence cañon to the crest, saw from the summit a most gorgeous sunset with the purple ridges of the mainland and a marvelous afterglow. We went over to the two MacDonald Oaks and waited until the moon illuminated them. After which back to Avalon at 11 o'clock. The next trip was by a

Catalina Island

launch to Swains, up to the groves of Lyonothamnus across the head of the ramifications of the cañon to head of Gallaghers, down Gallaghers to the Quercus tomentella trees at the spring, up through the brush to the crest for the sunset and afterglow, back to Avalon at 9.15 P.M.

July 12-13, 1908.

No. 3059. Prunus ~~integrifolia~~ Lyonii (Eastw.) Sarg. Walp. ~~Avalon~~. Swain Cañon.
~~var. laurina Jepson.~~ {= P. ilicifolia Walp. var. occidentalis Bdg.

No. 3060. Populus trichocarpa T.G. See 20 pp. back.

No. 3061. Quercus tomentella
Head of Gallaghers
1st trip

No. 3062. Ceanothus arborens Greene
Judge Banning's Cañon.

No. 3063. Composite
Avalon Malacothrix saxatilis var. tenuifolia

No. 3064. Arctostaphylos
politolia
Swain's Cañon

Catalina Island

No. 3065. Quercus Engelmannii

No. 3066. Hosackia ornithopus (Greene). Avalon.
= Lotus

July 12-13, 1908.

– As a rule the tourists don't get more than 1/4 mile from the hotels at Avalon. So one can wander off into the canons and "be shut of them". It would be a great island on which to botanize were it not for the sheep.

Los Angeles

– In Los Angeles called on Dr. R. E. C. Stearns. He lives in a little cottage on East 18th st with his daughter. I never had a more hearty welcome from a host. He is 82 years old, with full white beard and snowy head. He has a Roman nose, keen dark eye and a very pleasant manner. He has met and known as intimate friends practically all of the most eminent scientific men in natural history and esp. conchology lines from abut 1850. He paid a

July 14, 1908.

high tribute to Joseph Henry, "the grand old man," and also to Baird. More touching was his tribute to Kellogg whose child-like disregard of money he dwelt upon. Kellogg was a good physician but loved botany too well. If there were plants around he forgot the existence of patients. He kept at one time a drug store on Sansome st. He drew on a waxed plate the drawings for the earliest Academy papers and himself electrotyped them into plates.

Los Angeles

He had a good deal to say about Bridges whom he respected highly. Bridges had a botanic garden at Valparaiso, Chili. A torrent came along and took everything except himself and family to sea. Came ~~back~~ to California. Collected in all lines. Lived in Oakland. He was an extremely modest man about his own travels and you had to corkscrew things out of him. When in Brazil on the Amazon after the Victoria regia he

July 14, 1908.

saw a very rare monkey that the London Zoological Society was extremely anxious to secure. He shot the female in a tree. She had a young one in her arms, and she hugged it to her as she fell. Bridges said he never got over it and felt as if he had murdered a human being.

After living for some time in California he got the Nicaragua fever and determined to go there to collect. He had orders for various things from London and his

friends in San Francisco joined in and agreed to take particular things, shells, plants, etc. He had a very successful trip but on the trip up the coast on the home voyage he sat at the captains table and indulged himself at table too much. The fever took him and he died before the ship reached San Francisco. The captain was an Englishman and a friend of Bridges and would not allow him to be buried at sea

but brought him on to San Francisco so that he could be buried at home by his family. Mrs. Bridges and her daughter shortly returned to England.

California was still very young when Sir Joseph Hooker came to California on his visit accompanied by Asa Gray. I think Stearns said the reception was held at the Congregational Church. In any event on the steps Sir Joseph stopped and spoke the subject to

conversation in hand said: Ah, when I look at yonder institution across the bay [Univ. of California] and this here [California Academy of Sciences] I feel assured of the future civilization in California.

Yet the Academy was in dire straits all the time. It was the favorite subject for gibes by all the city.

Steams was not altogether partial to Behr. Behr brought

in "doctored" things, a branch which had been artificially perfumed, and have it passed around for examination. I said there a man to watch out for, remarked Steams, who evidently did not appreciate Behrs practical jokes.

Ojai Valley

– The Ojai Valley is a really beautiful spot, due chiefly to the fine mountains which surround it and the groves of Live Oaks covering the valley floor. I was escorted about by Mr. J.H. Dennison who was very kind. Took me to his ranch in the upper Ojai. On the Sulphur ~~Spring~~ Mountains just back of his farm the lower slope is covered with open groves of Live Oak and native walnut. Here grows the Big Walnut tree which he has written up in Pac. Rural Press.

July 18, 1908

– Big Walnut, 11 ft. circ. at 6 inches above ground; 8 ft 11 inches at 4 ft. Two lower side limbs 4 ft. 7 in. and 3 ft 7 in, each taken near main trunk.

The walnut trees practically without exception are of the bush type. Many-stemmed from the base and forming round balls resting on the ground. These stems have arisen as stump sprouts. The Big Walnut described above is merely a shrub which has grown to leviathan proportions. Its height was about 50 feet, possibly 55. When cut down or burned the stumps sprouts! There were many clumps that might have arisen as a result of fire.

Ojai Valley

Live Oak, big one in Upper Ojai Valley Ranch 18 ft. circ at ground; 17ft 4 in at 4 ft. above ground.

Three tremendous big limbs at 8 ft, the trunk enlarges upward rapidly and the limbs get the benefit of it.

Near it another tree, not so large as a whole but measuring 18 ft 10 inches at 4 ft.; 17 ft 9 in at ground.

There two trees were about 60 feet high.

July 18, 1908

#3066.
- Juglans californica, I also noticed this from the train in the canon between San Fernando Tunnel and Saugus but much nearer San Fernando tunnel. Noticed it stumps sprouting here also.

- Platanus racemosa. This stumps sprout, as observed near San Fernando Tunnel.

- No. 3067. Juglans californica. Upper Ojai Valley, north slope Sulphur Mountain.

- Said Mr. Dennison: Well you are a younger man than I was expecting to see and you I am a much older man I guess than you expected to see.

Ventura to San Luis, July 19, 1908.

– Bare hills at Ventura, a rather dull background.

At Surf there are sand-hills to study. Their smooth bulbous outlines and tawny colore fascinate.

There is a broad green river bed at Surf and down this opening in the hills comes the Santa Inez River. There is some water now. North of this is a great widestretching mesa; then hills; then down into the valley of the Santa Maria River, a green bottom where

the river should be but no stream at this time. Too dry a season. Then we come to another stream, smaller, at Oceano, up which a short distance lies Arroyo Grande.

San Luis Obispo

- Arrived San Luis Obispo Sunday afternoon at 3:25 P.M. was met by Judge Unagast who hospitably invited me to his home. He is the local botanist here and has been more or less actively collecting since the Polytechnic School started here, and possibly long before. He is a very good observer; had his training under Bessey at the University of Nebraska. He is interested most in the "flowers", does not touch the "trees" and lets the "grasses" alone, as well as the "mosses."

July 19, 1908.

Looked over a number of his plants and we discussed them pro and con. He has Oenothera ovata from about here, a very southerly locality. Peucedanum parvifolium grows here, flowers very yellow (orange indeed as egg-yolk yellow). Also Trientalis Europaea latifolia. Also Cornus maculatum. I think I saw great thickets of this by the railroad track near Arroyo Grande. About San Luis itself Foeniculum vulgare (Sweet Fennel; Unagast says "Sweet Anise") grows rankly in all vacant lots forming thickets 7 or 8 feet high. It is a

San Luis Obispo

first-rate nuisance says Unagast: really becoming intolerable. Here in this place in the dry soil the crown which is huge sends down a very deep tap root 3 or 4 feet long. One of Judge Unagasts neighbors pulled them out with a crowbar tackle, just as # one would pull stumps.

Nicotiana glauca is here. So is Senecio hibanioides which since two years is spreading along the creeks. Cattle, sheep, etc do not eat the former; how about the latter?

July 20, 1908.

We went on a little botanizing expedition to the Osos Valley where there is a little creek swamp. Here grows in abundance Alisma Plantago (stamens 6; flowers white); Hydrocotyle peltata, petals small, white, reflexed; Epilobium paniculatum; Plantago erata; Boisduvalia densiflora, petals very deeply parted = Greenei bipartita?; Heliotropium curassavicam, etc. Good tale tall in wettest part. Judge Unagast says there is Big Cone Pine near Cuesta (summit of the Santa Lucias) and Knobcone Pine in that region. There is Monterey

San Luis Obispo

July, 20, 1908.

Pine at San Simeon and another grove of it at Cambria. He has trees of this species growing in his yard which he calls "Cambria Pine".

No. 3068. Polygonum punctatum Ell. 4 ft. tall. wet swamp.

No. 3069. Polygonum coccineum Muhl. ~~saxatilis~~ 6 ft. tall. wet swamp.

No. 3070. Eryngium armatum C. & R. Low wet ground. = E. vaseyi C. & R. var. oblanceolatum Jepson.

July 21, 1908.

– Watsonville is a thriving district. It is flourishing and well kept. Its fine plaza lifts the town out of the commonplace. It is wonderful how much this one thing does to give interest to the town and make a beauty spot in its centre. I went on a motor ride through the orchards east. Speaking of the scattered oaks on the foothills Mr. S.B. Nyckoff remarked that orchard trees would grow where the oaks grow, and where the oaks grow the trees do not grow very well. In other

Watsonville, July 21, '08

woods the oaks have picked out the most favorable situations in the hills, a fact I had long noted by observation.

Vacaville
July 23 – 28.

–Centaurea solstitialis, Yellow Star Thistle, has entered the cultivated fields (wheat) and is now a great nuisance. Noticed it in Buckingham's East Field. Marching everywhere in aggressive hosts.

Berkeley, Aug. 1, 1908.

No. 3071. Sedge. Scirpus microcarpus. Creek, at Santa Fe track, just north of West- and Virginia st., where Santa Fe crosses the creek. In bottom of creek. Propagating by offsets.

No. 3072. Rush. (Juncus effusus L.) Notice the dark brown quill-like sheaths at base. With preceding.

No. 3073. Lupinus subvexus. Main stock a few inches above ground branching into widely divergent flowering branches. On bank-sides of creek.

No. 3074. Dipsacus Fullonum with No. 3071. Corolla 4-

Berkeley, Aug. 1, 1908.

- lobed, pink-white, lower lobe longest, shallowly cupped (at tip) upper lobe a trifle shorter than the lateral; all the lobes erect or nearly so, and oblong with rounded or obtuse apex; the lobes rather short; stamens 4, much exserted. Leaves 10 to 22 inches long.

- "Pinus monophyllus," as cited by Fremont, Rep. Exped. Cal. pp. 221, 222, 223, 225, 226, 229.

- Parker, Overland traveler, wrote a book of his journey to California. Mentioned by Dr. Willey. Look up for botanical notes.

Cordelia, Aug. 15, 1908

- Came up here last night to take some pictures of the wind-blown oaks. They are, literally, so wind-blown this morning that it will be difficult to take photos. I was on these hills six years ago photographing these trees. Notwithstanding that fact I missed the Islay trees growing on the south or terminal shoulder (towards the Suisun Marshes) of the Quarry Hills! They look not unlike Coast Live Oak (which is here!) and are wind-blown in much the same way, which perhaps accounts for my missing them. There are three or four clumps

Cordelia

[Thomasson Station is nearest station to the Basalt Ridge Quarry.]

One clump is 18 feet, with 3 trunks, the circumferences as follows: 4 ft. (but dividing just above the point measured, at 1 ft. above ground, into 2 main branches); 3 ft. 1 in. at 1 ft.; 2 ft. 2 in. at 1 ft. Old bark dark brown or almost black, roughish with rather deep & close checks mostly longitudinal but running into each other.

No. 3075. Quercus agrifolia! The acorns have a chance to mature the same season they are set because of being in the fog belt; Quercus Wislizenii sets its acorns but the summer is too arid to mature them and it hibernates during the

Aug. 15, 1908

long hot summer. A few miles further up the valley Wislizenii comes in.

No. 3076. Prunus ilicifolia Walp. I notice, thus far, 4 "balls" of trees, as noted on the page preceding but one – p. 59.

– Aesculus Californica, on wind-protected summit of hill. I notice as many as ten fruits in one cluster; some of them are small and none are very large.

– Prunus ilicifolia, stumpsprouts. Bases of old trunks enlarged. The clumps would indicate that all the present stand arose from stumpsprouts.

Cordelia

No. 3077. Quercus lobata but looks like garryana. windblown tree
Photo taken. The growth this season is on an average 1 ft 1 in. in length. This great growth on the extreme (1 ft 9 in) leeward side of the crown shows why the crowns extend practically in one direction only
Photo of another tree taken No. 3081
– Quercus agrifolia, the other windblown tree on these hills is Quercus agrifolia. Most of the trees are of this species. Prunus ilicifolia is also

Aug. 15, 1908.

windblown. See photos of Coast Live Oak.

No. 3078. Asclepias Mexicana = A. fascicularis Done.
Cav. Horns white, incurved, their tips centering above the centre of the disk. Anther crest white, triangular acute. inlaid and flat to centre of disk. Corolla pinkish lilac, also the pedicels.

No. 3079. Fraxinus Oregana latifolia Benth.
Watt. Several trees growing with native Oak (Quercus lobata) at the old ranch opposite the Basalt Quarry plant

Cordelia

Three trees in a cluster had trunks with close circumference as follows: 4 ft; 5 ft. 3 in; 6 ft. 6 in. The cluster was 70 feet high. They had all the appearance of being native (endemic) but might have been planted.

No. 3080 Eschscholtzia California var. crocea Jeps.

No. 3081. Quercus lobata - valley oak. Photo no. 6.

No. 3082. Eremocarpus setigerus Benth.

No. 3083. Eschscholtzia California var. crocea Jeps. Fine scorched but starting

Aug. 15, 1908.

to grow again. Buds mainly fire-killed.

All the above notes and collections made on the Basalt Quarry hill, lower or southerly end, just west of and very near Thomasson station, which is the switch station for the quarry company.

Walnut Creek, Contra Costa Co.

Fraxinus Oregana at Walnut Creek – good sized tree

No. 3084. Acer Negundo var. Calif. Walnut Creek

No. 3085. Populus Fremonti wats. seedlings. note the ovate obtuse cots with truncate base. Walnut Creek bed.

No. 3086. Sambucus glauca.

Dead ripe fruits very luscious. The blue jays having a lovely time with them.

Aug. 16, 1908.

No. 3087. Juglans California The fringe of trees in the valley along Walnut Creek mostly on the bankrieder as bed, from Walnut Creek to Magee's Ranch near the Marago Valley Road from the Lafayette Road is composed of the following: Quercus lobata, Quercus agrifolia, Salix laevigata, Salix lasiandra, Salix lasiolepis, Juglans Californica, Aesculus Californica, Negundo Calif. Acer The walnut trees are scattered 1 or 2 every 25, 50, 100 or 300 yards. They are tall trees with tall straight

Walnut Creek

trunks. The following were measured:

No.	Diam.	Height
1.	1 ft. 4 in	60 ft.
	~~1 ft. 2 "~~	~~70 "~~
	~~1 ft. 8 "~~	" "
2.	3 ft 5 in. (at 3 ft) smaller at ground.	65 "
3.	1 ft. diam	55 "
4.	10 inches	" "
5.	1 ft. 10 in	45 "
6.	5 ft.	70 "

No. 6 was a huge trunk on bankside which had been cut off about level with bank on upper side. Four tall trunks now arise from

August 16, 1908.

it and make one large tree, the secondary trunks (the 4 just mentioned) being 14 to 20 inches in diameter. Photo taken.

No. 3088. Acer Negundo Californicum T.G. 2 miles west of Walnut Creek village.

Berkeley, Sept. 3, 1908.

- Mr. Ramsey, asst. to Prof. R. E. Smith says: The largest wild California walnut grows between Ventura and Nordhoff on the road. From his description wagon I should say it were much larger than the Dennison tree.

He has discovered about 50. Californica x regia hybrids in Calif. orchards. Remarkably vigorous growth always. One fine one stands across Yuba River in Sutter Co. from the Marysville Courthouse near the bridge.

Berkeley, Sept. 25, 1908

- Teratology, Aquilegia truncata Strawberry Canon, 1908, M.B. Nichols, show at least one inner sterile scale (next to pistil) with anther! Obs. made by Bot. 3. students in formaline materials.

- Quercus lobata acorns.

Alex. Graham says: Hogs fed on cotton-seed meal give lard which when tested by a special test gives the same reaction that is given by cotton-seed oil when this special test is applied to the oil. Adulterators of lard in California say that their lard comes from hogs fattened on acorns and that the acorn-fed lard is similar to cotton-seed-meal-fed hogs. In other words that they do not adulterate their lard with cotton seed oil! Graham is disproving their contention.

Twin Sisters Peak
Solano Co.

No 3089. Quercus Wislizenii, normal thing. 3101

✓ No 3090. Quercus agrifolia Neé.

No. 3091. Quercus Wislizenii, normal leaf as to size and shape but showing hybrid blood in serratures.

✓ No. 3092. Quercus ~~Wislizenii~~ Intermediate betw. Q. agrifolia Nee and Q. wislizenii 4. DC. with terminal acorns (?)
No! Q. agrifolia.

No. 3093. Quercus Wislizenii with quill-like acorns
3107

No. 3094. Quercus Wislizenii
3104

October 3, 1908.

✓ No. 3095. Quercus Wislizenii ob. Small entire leaved. Has its own character!

No. 3096. Quercus Douglasii

No. 3097. Quercus Morehus
This tree bore very scantily
Its acorns on 2-year wood.

No. 3098. Quercus Morehus — a real "Chestnut" type, the tree distinct to eye from some distance. This tree stands a hollow swale 400 yds north of road and about 1/4 mile from main road fork (at Suisun Creek bridge). I saw no good

Twin Sisters Peak

acorns on tree & only "nubbins" a la Black Oak in early summer, thick on the ground. See coll.

No. 3099. Quercus Douglasii very fat acorns – sub-globose type. Near foot of grade.

No. 3100. Quercus Morehus first tree left hand side in going up grade.

~~No. 3101. Quercus Douglasii near foot grade.~~

No. 3101. Aesculus Californica Fruit remarkably white never saw such whiteness

Oct. 3, 1908.

before on Buckeye pods!

– On this trip to Twin Sisters from Vacaville I find the oaks as a whole fruiting. The real Morehus (3097, 3100) fruits sparingly or not at all. There is every gradation at to Wislizenii apparently, certainly so in acorns. In fact nearly every Live Oak here is a distinct type, either in leaf or acorn or both. The transitions to Kelloggii I did not get into this trip but they are there.

No. 3101 A. Grindelia camporum Greene. Near Jenetti Ranch, Methodist Lane, Oct. 2, 1908. Lot of seed sent to Perrédès London on Dec. 3, 1908.

St. Helena

- No. 3102 Quercus lobata Née. Weather has been very hot. As a result the acorns on the ground soon scald. The embryo tissue becomes brown and tough. Long dry weather may ruin the acorn crop for germination, just as effectively, by drying out the acorns.

- Pinus Sabiniana, trees on Crane Ave. bear very small cones. They persist on the tree as long as 6 or 7 years; if the rings or whorls of cones each represent only 1 season,

October 5, 1908

then the persistence is much longer. (My estimate is conservative.)

- Cupressus McNabiana.

Dr. Hackett says: Monticello-Aetna Springs road. Road crosses Putah Creek, from that point 4 miles, N.E. side Putah Creek, N.E. of a deserted ranch, there is on Big Moore Ranch a large area of McNab Cypress. The road crosses Putah (from Aetna), runs up right-hand side Putah, then in 2 or 3 miles deserted ranch.

Berkeley, Oct. 10, 1908

-Mr. F.F. Thomas says:

Desert Nevada Juniper[1] used for firewood - makes a quick hot fire. Desert Mahogany[2] is very hard; it is hard even when green. Checks in seasoning. When a young man in Inyo county I boiled the wood in oil to secure pieces for making pipes. It is so hard that it can be used in engines for the piston to run on instead of brass! Also used in Inyo thirty years ago for fuel. Wore out an axe so fast that a charge of $8.30 or more per cord was made for it;

Berkeley, 1908, Oct.

its extra weight also figured in this matter of charge, being so heavy that the extra cost of transportation was an item.

The cypress[3] in Arizona we burned green!

About the Grin Mine we have three live oaks: Common live oak[4] with dense foliage; while Live Oak[5] with white wood and different leaf; Mountain Live Oak[6], higher up, the wood very heavy.

Then we have a scrubby white oak[7], wood hard. Sometimes used for wagon tongues.

[I make the following

Berkeley

Key to his names:

1. Juniperus utahensis
2. Cercocarpus ledifolius as to * page.
3. Cupressus Arizonica
4. Quercus Wislizenii
5. "
6. " Chrysolepis
7. " Douglasii

The woods of Australia are mostly very hard. Jarrah is one of them that is so hard that even the white ants (which go through cast iron by secreting an acid) do not touch it. It is really indestructible. Specified for all foundation work in government bridges etc

Oct. 10, 1908.

There is a big in Australia: Moreton Bay big. The bats called flying foxes live on the fruits. These bats are large and remarkably fox-like about the head. They make sustained flights of 60 or 70 miles in their migrations.

(Prosopis juliflora DC.).

– Mesquite] J.C. Merriam says it has been planted about Buena Vista for cattle feed. Noted in 1908. (See ahead, or p. 85).

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* p. 80. In July, 1912, I saw trails run up the steep hills of the Sierra Nevada wall and scatter (branch many times). Peterson told me these were wood trails for the mines.

Berkeley

– Ephedra
Sent by S.C. Hills from Rancho Cantua, Fresno Co. Sept. 1908. Called "Indian Tea" by Miss Hibbard who says that in Nevada it is so called and used as a substitute for Chinese tea.

– Eriogonum indictum Jepson
Origin as above. Miss Hibbard calls it "Sour Weed" Indians use young tops.

No. 3103. Quercus agrifolia leaves from tree near Bot. Building. Drawing of type leaf, tree of Cal. from this.

Oct. 14. 1908.

– H. A. Greene came in today and talked to me four solid hours about his tree planting projects. When he finally did go I was rolled. He is an enthusiast sure – only he tells the same thing he told me before, nearly.

Says he got interested in trees as a boy through Bridges to whose house in S.F. he had entry.

Says Monterey Pines limit of life about Los Angeles is 25 years.

Exit. Selah.

Berkeley

– Juglans Californica. Prof. R.E. Smith confirms my notion that the southern trees are bushy in habit even when large. Says that in the Puente Hills they have been regularly cut off by wood-choppers for fuel and that there are only sprout bushes now, but in Ventura county the trees are very old!

– Pinus Torreyana. Tree in Bot. Gard., circumference 3 ft. 9½ in. at 2 ft. – Oct. 28, 1908.

Oct. 1908

– F.W. Anderson says: The San Emigdio Ranch lies on top of a cone at the mouth of the San Emigdio Canon, the cone formed from the silt brought down into the mouth of the canon from the country above. All around is desert country, cactus, etc. but oranges, lemons thrive on the cone and supply Bakersfield and such towns with their stock of citrus fruit.

All about Buena Vista Lake grows the Mesquite. I have too, heard the story that there have been planted but they are too big and old. C. Hart Merriam counted 325 or some such number of rings (Prosopis juliflora DC.)

Berkeley

– Mr. Kraal says: I have seen Redwood bark 16-18 inches thick. The "fallers" hate it; it's like chopping into so much sponge or punk. Twisted bark usually indicates twisted wood but not always. I got down a tree once with twisted bark. It takes two days to get down a tree like that. The men said it was no good. But I got it down and it split right in two as pretty as could be, straight grained all right.

In the Vance woods they had mighty pretty timber, 80 to 100 feet to first limb, as high as 16 feet diam.

Oct. 1908.

across the stumps. Yes Sir. Often get em 12 + 14 feet across stumps, and lots of it would run 8 + 10 feet right along.

Twenty per cent of the logs will sink in a mill pond. (The Union Lumber Company has just sent me a picture of Redwood bark 25 inches thick.)

– Climate and rainfall: Mo. Weath. Rev. U.S.D.A., 1907, p. 520. Influence of vegetation on rainfall and vice-versa.

Berkeley

– Santa Barbara Islands. – A discussion of their connection with the main land is to be found in Am. Geologist, vol. 20, p. 213 (Oct. 1897) in an article entitled "Oscillations of the Californian Coast" by H.W. Fairbanks. I summarize briefly his views:

1. Post-Miocene uplift
2. Pliocene depression
3. Post-pliocene disturbance, folding, faulting upheaval to a greater elevation than at present. Glaciation in Sierra. During period of elevation, probably not later than middle Pleistocene, the mammoth and other

Nov. 3, 1908

extinct mammals spread over the Pacific Coast and extended over the Santa Barbara Islands.

4. After brief period downward movement until land 12–1500 ft. below present level.
5. In recovery from subsidence the terraces were formed; elev.
6. somewhat greater than now
6. Subsidence to present level.

Lawson discusses same question earlier (Bull. Dept. Geol. Univ. Calif. vol. 1). Fairbanks criticizes him freely.

Le Conte discussed the subject in Bull. Cal. Acad. Sci, vol. 2, p. 575.

All geologists agree says Fairbanks as to post-Miocene uplift. Fairbanks agrees with Le Conte. All of them

Berkeley, Nov. 1908

would evidently agree on a Miocene sea and Pliocene sea in the Great Valley during periods of depression.

- Coast Ranges, Review of our knowledge of the Geology of Fairbanks, Bull. Geol. Soc. Am. vol. 6, p. 71. (1894).
Stratigraphy of, Journ. Geol. p. 415. (1895.).

- Climate, rainfall, see Rainfall Map of California, by Hubbard, U. S. Mo. Weather Review, Jan. 1908.

- Pinus tuberculata, Knob-cone Pine, one tree in Pinetum near Oxford St. University grounds, removed a few days ago. Showed 31 rings within 4 inches of ground.

Mill Valley, Nov. 21, 1908

- Redwood, most perfect circle = 42 trees. Upper big circle of trees 95 feet high.
- Quercus Wislizenii frutescens. a great abundance of it in the chaparral above Mill Valley on slopes Tamalpais.

No. 3103. Quercus Wislizenii frutescens Engelm. This det. is an error. The sheet must be Q. agrifolia Nee.

No. 3104. Quercus Wislizenii Acorns very pointed.

- Lemmon, J. G., notice of death, S. F. Bulletin, Nov. 25 & 27, '08 He died Nov. 24, 1908.

Berkeley.

No. 3105. Fraxinus Oregana. latifolia Benth.
Seedlings grown in Bot. Gard. Seed from St. Helena, 1908, in the fall. Specimens showing cotyledons were taken last spring. Most of the seedlings show at this time only simple leaves i.e. at end of season growth. Many show at summit compound leaves from leaves with 1 to 4 lateral leaflets. The foliage is all fresh and green, showing no indication of turning brown or falling. Some of the seedlings show a slight second-vegetation period. – Dec. 3, 1908.

Dec. 9, 1908.

– Senecio Douglasii, a specimen sent by Dr. A. J. Smith, Milpitas. He calls attention to the fact that it is a "shrub" and that my flora says herb. Correct flora in generic diagnosis. His plant is the ordinary bush 2½ feet high with a short main trunk 1 inch in diameter. Note the green branches. Came from Los Buellis Hills.

– Douglas Fir –, log rafts from Columbia River to San Diego See newspaper clipping taken from Chronicle, Oct. 4, 1908. In a Sunday issue about Dec. 5 is the account of the largest raft yet built. I think Sunday issue and certainly within a

Berkeley

work of day noted. It is a short item.

- Carsson, F. H., U.C. '90, came in today. Says the sensitive plants in Mexico interested him vastly. Once the moment the rain fell the leaves closed and turned in color from green to gray. Another was so sensitive that it would close by breathing on it. Others would scarcely respond at all.

- Cephalanthus occidentalis cf. Stewart, Nov. '08, letter file

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- Salvia. Look up Lang, Zur Bluten-Entwickelung der Labiaten, Verbenaceen und Plantaginaceen. (Biblio. Bot. # 64).

Dec. 10, 1908

- Pinus Attenuata, Knobcone Pine. A tree has been cut off close to the ground, in the University Pinetum near Oxford street; showed 31 rings; cut within 4 inches of ground. Noted Nov. 1908.

- Berberis Fremonti, cuttings rooted by Perring. See letter file.

- Potamogeton. Look up Schenck, Vergleichende Anatomie der submersen Gewächse. (Bibliotheca Botanica, vol. 1).
- Aster. Look up Lix Käll-Gyllenband, M. V., Phylogenie der Blutenformen undder Geschlechtvertheilung bei den Compositen (Bibl. Bot. # 52)
- Saxifraga. Look up Günthart, Beitrag zur Blutenbiologie etc (Biblio. Bot. # 58)

St. Helena, Dec. 26, '08

– Frank Pellet says: The Wild Pigeons are around again this year. They have not come in for several years except in strays. They eat not only Madrona berries but "Pin Oak" acorns and Valley Oak acorns. They swallow the nuts (minus the cups of course) whole! I can't say how they get rid of the shell. But I have seen nuts of the Pin Oak taken from their crops and _____ _____ a remarkable hunter assures me they eat Valley Oak acorns as well.

Oakland, Jan. 8, 1909.

– Called today on Miss Wythe, teacher of botany and zoology in Oakland High School to put before her the following proposition: "In earlier days in California, the missionary spirit in botany was very strong. The study of botany was fostered by clubs and organizations. Such names as Kellogg, Bloomer, Bolander recall all this. The proselyting spirit within myself was very strong. I founded the Chamisso Botanical Club. Professor Greene had a strong proselyting spirit. He took a kindly interest as head of the Dept of Botany in the Chamisso Club. Prof. Setchell came and substituted for the club the Botanical Seminary which finally died a natural death. The California Academy of Sciences since the earthquake has entirely given over botanical activity. Now there should be clubs to promote botanical interest among the people who have some botanical tastes. Encourage and foster personal study of the local flora. Here is a city of 240000 inhabitants (Oakland claims so much), yet it has no botanical club, no botanical garden, no botanical museum. Let us organize a club even if it have only small beginnings. Oakland can do it."

San Francisco

– Mr. S. C. Lillis says:– Quercus Alvordiana occupies a long and narrow strip of Red Shale formation in the Rancho Cantua region – about 12 miles long and 1/4 mile wide. It doesnt move off this strip

Sequoia gigantea grows in a peculiar soil and not off that soil. Have observed this in 3 or 4 different groves.

The acorn crop (of the Rancho Cantua) in the fall of 1908 was the most remarkably heavy one that I have seen. The shrubs were heavily loaded. The acorns stood so thickly in the branches that

Dec. 28, 1908

they imparted a distinct color to the shrub oaks – a color distinct from that of the foliage and which could be seen 200 to 400 yards away. The reason for this heavy crop is attributable to the seasonal conditions. There was no rain at or after flowering time for two or three months. The acorns had full opportunity to set without suffering the disadvantages of rain. Moreover there were no heavy storms to destroy, injure or knock off the little button acorns. (These observations

Berkeley

would necessarily apply to annual fructification only).
- Mr. S. C. Lillis says:- "Valley Oak has a great deal of sap. Bluish sap, that is stains blue. That is why the wood is so worthless. Still the butt cut is heard and I have known cases where the posts made from the butt cut were as much as 32 years in the ground and still sound. The next cut above is no good. This is not a white oak the use of which I speak. It grows on the Rancho Canada at lower altitudes. We have a white oak; it

Jan. 2, 1908.

grows at higher altitudes The bark is white [= Quercus Douglasii]. The trees were so heavily loaded with acorns this year that branches were broken down This may have been due to weakened limbs.
- Maul Oak occurs; a little of it about springs at high elevations in this region (San Carlos Range. It always grows in damp places.
- "Deer Brush" = Ceanothus cuneatus.
- Sweet Brush = Cercocarpus parifolius. browsed by cattle.
- Hilgard has a theory that the round-low-headed Live Oaks owe their form to caterpilar attacks and that the tall form of the tree is

Berkeley, Jan. 4. '09

of the interior where the caterpilar does not grow, the insect being restricted to the foggy coast belt. He says the two Live Oaks are very easy to distinguish by their wood, the Coast L.O. splitting cross-wise about as well as lengthwise. The Interior L.O. is tougher, splits lengthwise and from it are made handles for axes.

-Potentilla; "Monograph der Gattung Potentilla" by Wolf, in Biblio. Botanica, no. 71.

- The explanation should not be more difficult of belief than the thing to be explained. - Montaigne.

Berkeley, Jan. 10, 1909

-"Old Erwin", the old Irish gardener in the Agricultural Experiment Garden facing Oxford street, says: "Them 'ere pines [pointing to the Monterey Pines row on Oxford] was just so I could put my hand over 'em [indicating with his hand about 3½ feet]. Yes, sir. And I came here 29 years ago. Yes sir. It's going on 29 years. And those 'ere pines - They looks as if they was about three kinds now but we plowed between the rows then [indicating the Pinetum opposite the Garden] They was about two years

Berkeley, January 10, '09

old. The Professor was mighty particular about them pines. He liked them pines. Yes sir, he always looked out for the pines [The "Professor" to the old gardener always definitely indicated Hilgard].

– Pickering. Traveled in Calif. & Geog. Dis. Au. of Pls.

– F.C. Havens, Piedmont, has great coll. roses. Expert. Flowers interest. His son Harold Havens says "go in and see him any time. Delighted to see you".

– Yucca Whipplei. See Sunset Jan.'08 for uses.

Berkeley, January 12, 1909

– Eastern Botanists and Requests for Material.

Eastern botanists make requests for material in the most light-hearted way. "Will you [at Berkeley] please step out some afternoon and secure such and such a species of the Sierras or Mojave Desert. The Californian botanist often does, modestly saying nothing of his great labors and expense. The Eastern botanist bakes, but seldom give thanks. It is rarely that one ever receives an acknowledgment in the way of a printed pamphlet relating to material sent. But today

Berkeley

I had an acknowledgment, just a brief but all sufficient one and one-half line of thanks. This from McAtee, Biological Survey. I preserved it in my file!

Re. Death of Lemmon - I had thought that I had some time since made a record of the Lemmon Funeral. It took place at the First Unitarian Church, Oakland, on the Saturday following his death, at 1.00 P.M. It was a Grand Army funeral, that is conducted by the members of the "Post" to which Mr. Lemmon belonged.

Jan. 19, 1909.

Before the "flag service" by the ladies of the post, there were three addresses, a brief introductory one by a minister, the second by Professor Putzker who talked in his usual vein. He talked well concerning the personal characteristics of Lemmon, his gentleness, his child-like simplicity, his innocence of evil, his lack of power to combat deception and subtlety in others. He pleaded "that a very great man, a very great man lay dead before them, altho the community did not appreciate it, otherwise he would

Berkeley

have been accorded a great public funeral. A great monument should be erected to his memory by public subscription." – And much more to the same effect. Dr. McClain, President of the Pacific Theological Seminary, spoke very sympathetically of the deceased, describing particularly his superiority to trivial or unavoidable events. He met him first at Mt. Shasta but altho he was often subject in his camp life to disagreeable weather he never complained of it.

San Francisco, Jan. 1909.

– went with Mr. Freeman to S.F. to see Mr. Kinsey, one of the Cascara Sagrada bark men. He gave me a good deal of information. See Cascara Sagrada file. Mr. Freeman says there is no stipulation made about bark quality on the part of the buyers. Bark is bark, thin or thick, wet or dry, it doesn't make any difference. Kinsey says the greatest Cascara bark expert is W. Pollock at Portland.

Berkeley

– Eucalyptus; there is a well-informed haberdasher named Jones at Berk. Station. He says Eucalyptus wood burns green better than dry; that the expressed oil made in Australia is worth 6 times (or 3 times?) that made here. The druggists prefer the higher-priced brand. I asked him if he had ever seen a Eucalyptus grove burn? He said he could not remember such a case – and yet this query was as to its readiness to burn.

Feb. 16, 1908.

– "Many years ago", to be exact in 1897! when I was exploring the inner North Coast Range country from the west-(Round Valley) side this incident happened. We worked with animals over to Middle Fork Eel, then along the Soldiers Ridge – all parched dry in gulfy – then we suddenly came to the subalpine flower fields about South Yallo Bolly where there were lingering snow drifts. Carter Roberby started to explain to me about Shasta But I had been on Shasta! Said he to Hunt: Why he wasn't listening; just

Berkeley

gazing at them 'air flowers! He seemed plum dazed and yit he was all alive too." Hunt laughed loud and long and inquired: Did you look at his eyes? Huh? Didn't you see them shine! And this next: "When passing the Jardin des Plants, Paris, where we had a visit together I always remember your jubilant eyes when discovering the plants which had been the cause of your trips to Europe. I think at that moment you would not have given away your plants for all the gold

Feb. 17, 1909.

of the world !!"
[Signed] F. A. Hermann,
Paris, 1st Feb. 1909.
5 rue de l'Alboni,
Passay.

– Valley Oak. Do cattle browse on the pendulous branchlets? Hilgard in Gard. & For. vol. 8, 170, says never!

– Smilacina sessilifolia Nutt. Teratology. 2 perianth segments (contiguous) blended completely, bearing sessile anther inside near top just off the median line. Four other good normal stamens. Sixth stamen rep-

cont 3 pp. on

Berkeley

- Tree Planting Laws in California. Streets & highways

Statutes of California
And Amendments to the Codes
Passed at 30th Sess. 1893.

P. 153. City planting, regulations governing.

P. 365, County planting. (at age 4 yrs, $1.00 each, may be pd to person planting along highways.).

(Cf. letter from Duncan McDuffie in tree file, Street Feb. 1909.)

Feb. 17, 1909.

- Live Oaks, University grounds. One tree in front of east end of Agr. Building dying now. Death due to old fill in grading.

- Is Redwood poisonous in the form of wood splinters? Some carpenters claim it is.

- Russian Thistle. Most extraordinary article in S.F. Call for Feb 18, 1909, or the issue of the day before or after.

Berkeley

Simlacina sessilifolia — cont. from three pp. back.

— resented by a short sharply pointed filament without anther. — Strawberry Cañon, F. S. Steele Bot. 4, Feb. 20, 1909.

— Big Tree. Senate passes Big Tree measure. The notice of its passing the house was about 1 week ago. See Chronicle files. Page 1 of issue of Feb. 17, etc.

Feb. 17, 1909.

— Cicuta. A wild plant growing along irrigating ditches in Inyo Co. poisons Greek laborers who eat roots because they recognize the plant as belonging to Carrot family! See S.F. Chron., p. 10, Feb. 16, 1909.

— Salix laevigata Bebb. See transcript of orig. descrip in letter file under "State Library" Mar. 1, '09. File = Trees of California.

— Brewer, Watson & Gray. Nothing could be plainer than that these are the authors of the Botany of California, yet Easterners continually quote Watson, Bot. Cal., or Brewer & Watson, Bot. Cal. as does Sargent.

Oakland Hills

No. 3106. Salix lasiolepis. Stamens all of the Y type. All stamens on a catkin forked & probably all on a bush?
Kohler Canon, Oakland Hills

No. 3107. Trillium sessile L. var. giganteum H.&A. Petals pale lilac. Sepals green. Marked contrast. —

No. 3108. Trillium sessile var. giganteum H.&A. Sepals green. Petals deep purple. Radical leaf.

No. 3109. Sepals green, slightly purple inside. Petals purple
T. ~~sessile L. var~~ giganteum H. & A.

February 28, 1909.

No. 3110. Trillium ~~sessile var.~~ giganteum H.&A. Petals flesh color (dull white with purple tinge Not essentially different from 3107 but all these spms. numbered differently for the following reason:

I gathered first a plant like 3108 but the sepals had become purple like the petals. This is not uncommon form or perhaps is the common form. Then I chanced across after a few steps no 3107, the contrast between the green sepals and lilac petals emphasizing the difference between this form and the all purple one just spoken of! No

Oakland Hills

wonder that some people take them for different species! But in the same patch (foot of first-grade below tunnel, east side Berkeley Hills, Fish Ranch road) I find every transition!

– My walk was up Jack Hayes & Kohler cañons, San Leandro Creek, Moraga ridge, Tunnel road, Berkeley.

Feb. 28, 1909.

– Islay. "Isle of the Hebrides"; name of a mountain point in Peru. Cf Diccionario Hispanico.

– Potamogeton. Studies of Pot. with ref. to class. of sp. – Runkiaer, Botanisk Tidsskrift, XXV, 3, p. 263 (1903). Arthur Bennett & Runkiaer consider that leaf endowed with a sheathing stipule is more primary than the sheathless.

– Title for botanical journeyings in this State: Camps and Trails of a Botanist in California

Berkeley, Mar. 09

– Trillium ovatum. Students in Bot. 4 find ovary incompletely partitioned from middle up (Miss Roix, Miss Parry.) I found same thing on S. Fork Eel junction main Eel below Camp Grant, 1902. How about other species.

– Brewer, W. H. Woods and woodlands [of Conn.], Journ. of Forestry, vol. 1, p. 799.

– Hosack, David. [See also p. 128 seq.] A student once asked as to the origin of the name Hosackia, the Leguminous genus which is found in the old books of botany. The name, I replied, is in honor of David Hosack of New York City. He was a considerable man in his day, a doctor of medicine and a Fellow of the Royal Society. The genus name was proposed (See p. 125, cont.)

San Francisco, Mar. 11, '09

– Attended a section meeting of Forestry section of the Commonwealth Club., Woodling, chairman, Judge Short of Fresno, A. H. Briggs, Wood of the Caspar Lumber Co., and F. J. Koster.

Woods' view is that lumbering with reference to the future in the case of Redwood is out of the question. He has the [illegible]-opinion of 2d growth Redwood, – after 30 years growth it is 8 or 10 inches through, largely sappy and knotty. He explained firing in "swamping" Redwood from his point of view and thought the loss as to log injury negligible. Beyond the logged area the fire burns

San Francisco

right up to standing timber and stops.

Mr. Lyndling complimented me the second time on my Commonwealth Club paper, The Barren Foothills, and said Judge Hart thought it the best paper of the evening. I remarked that I was a botanist and not a forester, whereupon Lyndling said: "Well, that is all right; the paper was distinguished for its sane and reasonable tone"

Perhaps these men so usually represent partisan views and interests that the dispassionate view

March 11, 1911

of the scientific man is somewhat novel to them.

Elliott of the club spoke of sending Oregon Pine [Pseudotsuga taxifolia] to fill an order because the oak asked for could not be had in sufficiently large pieces. It had strength sufficient for the purpose, and a sufficient elasticity to prevent breaking which factors made it win out over the oak.

- Cont. from p. 122 at bottom.
by David Douglas and published by Asa Gray, in Proc. Acad. Nat. Sci. Phila. 1863. p. 346. Hosack is memorialized in the "Hosack Professorship of Pharmacology," College of Pharmacy, Columbia University. cf. Science, 3-12-'37, p. 257. Cont. p. 128 sqq.

Berkeley.

- Solanum umbelliferum. The straight naked stems form a rough witch broom cluster in the brush in the fall — whence my invention, "Blue witch"

- Tollon or Toyon, its origin? Islay, its origin? Same as Islais? cf. Islais Creek, S. F. County. — Trail?

March 16, 1909.

- "Water Maple, common name for Acer macrophyllum" — Miss Kennedy, Botany 4

- "Chocolate Lily, a name for Fritillaria mutica — Miss Perry, of Haywards, Bot. 4.

- Pig Tails, Indian Head, names for Brodiaea capitata — Miss Harmon, Miss Behr, Mr. Steele. (Miss Harmon & Miss Behr are of Lake Co.)

- California Nutmeg — in canons, a few trees near Tule Lake, Lake County — Miss Harmon, Bot. 4.

- Bulls Eye Lily = Calochortus (venustus ?), so called on account of the spot in centre of each petal — Miss Rowe, Bot. 4, Grass Valley.

Berkeley, Mar. 1909

– Bride's Bonnet, "a white flower hanging down, grows in Sierra Nevada" — Miss Rowe, Grass Valley. This = Clintonia uniflora I judge.

– Asclepias pudpurascens — said to poison (cattle?) or to be poisonous at Grass Valley — Miss Rowe, Bot. 4.
(By this must have been meant: A. cordifolia.)

— Hasack, David. Cont. from p. 125. A portrait of Hasack, a fine old steel engraving, hangs on the wall in my laboratory.

– Collecting and drying plants Cf. Torreya, 9, 74.

Lagunitas Creek, Mar. 13 '09

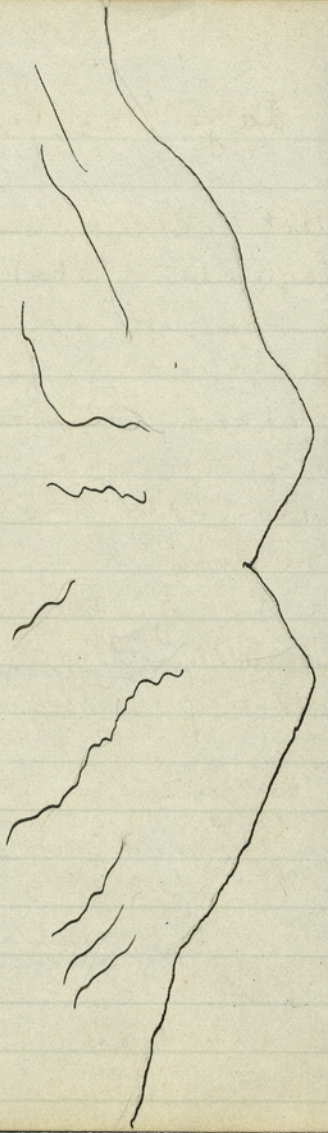
– Bot. 4 excursion. Road up to Lagunitas (Lake) closed by water co. so we went back to San Anselmo for train to Fairfax whence there is a fine road leading over into the Lagunitas country. One has many fine new views of Mt. Tamalpais.
No. 3111. ~~Montia~~ Claytonia spathulata Dougl. On rock outcrop, Lagunitas Road.

– Ranunculus maximus Greene. Ross Valley to San Anselmo. not coll. Petals the yellow of a rich egg yolk and glistening as if polished.
No. 3112. ~~Montia~~ Claytonia spathulata Dougl. In brush, n. slope.

– Black Oak, the dominant oak in canons n. side of the mountain (Mt. Tamalpais).

Vacaville
Little Oak.

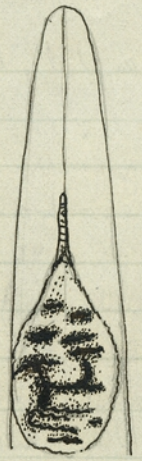
Sketch airline of Mt. Diablo as seen from Little Oak.



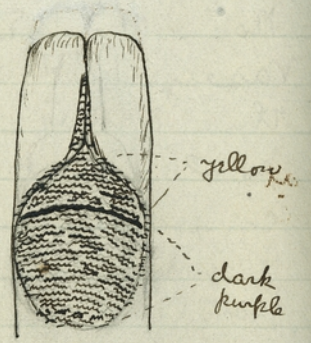
Vacaville, Mar 14, '09

– No. 3113. Eryngium Vaseyi C. & R. Heavy rainfall this winter and all the pools continuously full, – consequently all the Eryngium plants with fistulous leaves. Practically no leaf blades to date. The whole plant is changed by summer time. That is to say the present plant is replaced by an arid spiny plant. – High rainfall but the vegetation scant instead of lush! Reasons, cold, beating down of soil by continuous rains, lack of sunshine.

Berkeley
March 17. 1909



A.



B.

See p. 157.

A. Dodecatheon

Petals red-purple, whitish at base passing into dark purple band which is figured at base more or less. Anthers slender, nearly 2 lines long, twice as long as filaments, the crests not so fleshy, & roughly and irregularly broken or wrinked or rather folded. Crests oblong, pointed at each end. Stem reddish (that is as if with superficial folds.) Bracts reddish

Berkeley, Mar. 17, '09

B. Dodecatheon – See prev. page for fig.

From Pleasanton:– Flowers 9-14 to an umbel. Petals white, at base yellow shading abruptly into a dark purple band. Anthers as viewed from outside as long as crest of filaments, or nearly. Crests inflated, dark purple with (fleshy–) yellow tip, marked by close transverse ridges (wrinkle-like) paralleling each other. The yellow tip is pale yellow, straw-yellow or almost white. It changes color with progress of anthesis, becoming dull. Anthers within a shade of 1 line long, the whole stamen nearly 2 lines long. Crests elliptic rather obtuse at each end. Stem

Berkeley

whitish. Bracts green. — When this plant came in I was much struck by its appearance. It certainly looks very different from anything else. The petals are variable in breadth. Usually 1½ to 2 (or 2½) lines broad, one cluster with petals 5 lines broad was exceedingly showy and attractive. Specimens of this form dried retain many of their striking characteristics. — The material was brought in by Miss Perry, Bot. 4, who had it from someone at Livermore. A delicious egg-yellow-petaled form from Livermore also came in — not enough of it to study.

Apr. 19, 1909.

— Mistletoe — Bray of Syracuse inquires whether spreading of roots may be due to host. Nature of pollination? nature of another query. — Held Flower Show in Children's Room of Oakland Free Library. Mrs. C.S. Greene, Librarian, asked me to send down some one to name the plants. Miss Jones and Miss Rowe went down and I completed the determinations the next morning. The following common names:

— Pop-corn Flower, for Orthocarpus erianthus white form I take it. Certainly the name most happily set on it and is far

Oakland

better for it than it is for Plagiobothrys. I do not know that I ever saw this form before and I may have mistaken another species.

- Wood Rose for Rosa gymnocarpa (W.L.J.)
- Beauty Lupine (Lupinus nanus). (W.L.J.)
- Pinpoint Clover (Trifolium gracilentum). W.L.J.
- Fleshy Lupine (Lupinus affinis). W.L.J.
- Nigger Heads (Sanicula bipinnatifida).
- Snake-heads for "the curving stalked Brodiaea" - Librarian in children's room.

April 17, 1909.

- Bladder Clover (Trifolium amplectens). W.L.J. But perhaps better for T. fucatum.
- Shower Gilia (Gilia androsacea). W.L.J.
- White-tip Clover (Trifolium variegatum). W.L.J.
- Phacelia circinata usually if not always in rock outcropping = Rock Phacelia (W.L.J.).

- Azalea occidentalis. Lavender or purple form grows at Fort Ross and in Humboldt County and may in those places. No odor!
- Residents at Cazadero, teste Miss Vina Wiley.

Berkeley to Upper Walnut Creek, Apr. 30, 1909.

No. 3114. Juglans Hindsii
First trees were seen in the sharp gulch of Walnut Creek about one mile s.w. from Burton Ranch gate. We drove from Berkeley over the Kohler Grade into head of San Leandro Creek, then out into Moraga Valley, easterly, passing over the low divide to the waters of Walnut Creek, passing down into the cañon, the road following the stream in the narrow cañon between the hills. Then Walnut trees appeared, fine specimens, all

the way to the Lafayette Valley. We camped for lunch at the entrance to the A. Burton ranch coming from Moraga Valley. There were fine trees near this place. Most that I noticed rose above the other trees, willows and box elder, and were 70 feet high and 1½ to 2 feet in trunk diameter. One tree inside the Burton gate alongside the bridge was fully 3 feet in diameter. The finest specimen I have seen.
– Conium maculatum, abundant along stream on A. Burton ranch.

Upper Walnut Creek, Apr. 30, '09.

- Box Elder, trees 40-45 feet high, trunks 1-1½ feet in diameter, often several from an old stump. There were there mature sprouts and also young sprouts from the stumps or rather bases of there.
- Juglans californica. Bloom very abundant. Pistils and stamens (catkins) fully developed but not in anthesis. Doubtless will be in a few days.
- Magee (Walter), says old grant of Carpentier Ranch records certain distances: "as far as one can ride north smoking one cigarette, the horse walking at an average pace, as far west as one can ride smoking two cigarettes, etc. The Burton place is part of this old Spanish grant.

Berkeley, May 8, 1909.

- Salix lasiolepis, experiment in germinating seeds by Miss Grace Rowe, Bot. 4. Approx. 1000 seeds planted Apr. 6, 1909., rich moist soil, cool shady place. First plant appeared Apr. 13, 6 or 8 on Apr. 20, 2 or 3 doz. on Apr. 29. Some still germinating. Cots thick, round in outline.

Monterey

- Attended Counties Convention of Cal. Promotion Com. The hills in great flower all the way down. The botanizing would be especially good between Monterey and Lapsis flag station. Great splatches of color. All Yellow Lupine (L. arboreus), then all Blue Shrub Lupine. All these sandhills are in fine bottle, with good pickings in the ponds here and there.
- I read a paper on Highway Trees Plan for California.
- Judge Short thinks 50,000 people will in due time yearly visit high parts of Yosemite Park.

May 7-9, 1909.

- McGee from Washington made a very philosophical address on water, showing its prime necessity to man, that it was limited in amount and should by no means be alienated to corporations. Fox of Arkansaw was a rapid fire campaign speaker on rivers.
- L. B. Smith of California Polytechnic was there, Judge Short of Fresno, who thought I knew admirably how to combine sense and sentiment, Gov. Pardee, W.W. Mackie of Bureau of Soils, Etc.

Monterey.

– Pajaro River, between Pajaro and Sargent, plenty of Box Elder and Populus trichocarpa.

Berkeley, June 18, 1909.

– Big Tree, 2d tree from Botany Bldg west, the cones formed in February are now just one inch long and beginning to turn down. They are excreting drops of resin the size of a pin point.

Berkeley

– Alnus rubra was collected at "Colonie Ross" by Kurangel. Cf. Delandolle, Prodromus, 16, 2, 186.

– Nuttall, Thos. The only running account he gives of his stay in California is a single paragraph on p. 10, v. 1, of the Silva of North America. He was at Santa Barbara in April (l.c. 18). Singularly enough he did not see the Douglas Oak (l.c. p. 20) which, doubtless, is sufficient proof that he went along the coast by sea and not by land. For it would have been impossible for a keen naturalist like

1909.

Nuttall to have passed over the old Spanish Trail from San Luis Obispo to Monterey via Mission San Antonio without seeing the Douglas Oak, there being forests of it in the San Antonio and Nacimiento river valleys. He did not see the Umbellularia californica (p. 104) which is further evidence, and also indicates that he was not at San Francisco. His collecting stations were San Diego, Monterey and Santa Barbara. What about San Pedro? Arrived at Monterey in March (l.c. p. 193). With the fruit of Ceanothus thyrsiflorus he was unacquainted (l.c. p. 193)

Mt. Diablo

- Went on a trip to Mt. D. Left Berkeley at 7.47, arrived at Concord a little after 10, met by Miss Linda Gehringer, one of my students, and driven to Mitchell Canon to look for Coulter Pine. Miss G's brother Carl came along to do climbing. There was no difficulty in finding them! On face of first hill directly south of Clayton + to left of entrance to Mitchell Canon. Previously I had gone into the canons and up the mountain. It was a case of looking in the pastureses and overlooking the suburbs of Clayton! The first tree we came to is

June 25, 1909.

about half-way up the hill from the creek bed (Mitchell Creek) to Mitchell Rock, which is a rather prominent rock on the canon wall and a well-known landmark to the county people. This tree is 50 feet high, vigorous, 4 ft 8 in. in circ. at 4 ft. from the ground.

No. 3115. Pinus Coulteri, Dorfol. from tree just described.

It stands very close to a Digger Pine tree.

Up by Mitchell Rock is another tree, wind-blown, a bit older tree than first one, about 45 ft. h.

Working around the hill

Mt. Diablo

one passes on to a shoulder and looks up a little cañon which cuts the south face of the main hill. There are three small Coulter Pines on or near this shoulder. I could see a few more across and up the cañon — about one dozen in all. The susceptibility of Coulter Pine to fire has doubtless caused its restriction here.

— The hill spoken of above is rather densely wooded with Digger Pine — denser stand than usual. The Digger Pines was variable in branching, outline as usual and remarkable variable in density of crown. In the

June 25, 1909.

of foliage, those of leaves, there seemed distinct types as follows:

No. 3116 Pinus coulteri Don. Gray foliage, white branchlets, hanging needles. Young tree.

No. 3117. Pinus coulteri Don. Yellow green fol., yellow branchlets, erect needles.

(In both cases distant, not close observation.)

No. 3118. Pinus sabiniana Dougl. Densely foliaged type, erect needles. Thick shoots.

No. 3119. Pinus sabiniana Dougl. Thin head. Hanging needles. Slender shoot.

Last 2 nos. near no. 3115.

Mt. Diablo

No. 3120 Umbelliferæ. Mitchell Rock.
Peucedanum macrocarpum Nutt.

No. 3121 Sphacele calycina. = Lepechinia
Bush, 6 ft. long branches.
see p. 155.

No. 3122 Pinus coulteri.
Young tree photographed.
45 ft. high.

No. 3122a. Sphacele calycina
see p. 155.

– Cones of Coulter Pine and Digger Pine are very difficult to distinguish in some cases. The cone sent me by Miss Linda Jehringer is of this type. Its hooks are short + small and would easily be mistaken for Digger

June 25, 1909.

Pine. The two trees in the field are never to be mixed, on account of the color of the foliage and the denser broom-like brush of Coulter Pine. The branchlets of Coulter Pine are slender, the successive years zone of leaves is more nearly continuous or even without a break. In Digger Pine the branchlets are slender, the break where there are no needles is as great i.e. as long as the leaf or needle zone.

Mt. Diablo

- Populus Fremontii in bottom Mitchell Creek.

- Ptelea Baldwinii crenulata was abundant in the opens on the slopes southerly from Mitchell Rock and easterly from Mitchell Rock. The foliage is turning a little yellowish and the colonies at a distance suggested bushes in flower.

- Live Oak (Quercus agrifolia?) in cemetery near Concrete Lime Works.

June 25, 1909.

- Sphaerale calycina, no. 3122a. Schizocarps nearly globose, 1/8 inch long, black and shining, covered with very fine short spreading straight hairs. Hairs very short, white, not or scarcely visible on the direct side of fruit, but appearing like a dew on sides of globose body. See p. 152

- Beautiful cool day, the mountain showing purple. The oaks dark green against grass-whitened hills, the roads smooth and clean - a fine day for the work. Took train back to Berkeley from Concord at 3.40 P.M.

Mt. Diablo

– Altitude of Pinus Coulteri. I was much surprised to find Coulter Pine at so low an altitude. It was scarcely any distance above the bottom of the cañon at mouth of Mitchell Cañon. The altitude of the first tree as I make it out on the contour U.S. Geol. Sur. map is 700 feet, 750 at most. The trees seen run as high as 900 feet or perhaps 1000 feet. I doubt if Coulter Pine occurs elsewhere at so low an altitude.

In the Santa Lucias

June 25, 1909.

above Paso it is rather near the sea but at greater altitude I think than on Mt. Diablo.

– The ~~Dodecatheon~~ "A" material I did not put down, but presumably it is D. Hendersoni. By "crests" on anthers I mean connective. See p. 132.

Berkeley, 1909.

- Nee, Luis, a rather full account in a dictionary of Spanish America in U. C. Library — the exact title escapes me. = Diccionario Encyclopedico Hispano-Americano.

- Polygonum tenue. Excluded from Cal by Greene + from Wash. by Piper. Hall retains it in Yos. Fl. on basis of Congdon, Zoe, 3:322

- Crop Weed. Used at St. Helena for Galium trifidum L. — Mrs. Clara A. Hunt, Apr. 29, 1909.

Cal. Acad. Sci., S.F.

- Quercus palmeri. Cup 7 lines diam. 5 lines deep. It is of the chrysolepis type in texture and appearance of the surface, rusty on outside, silky inside. Nuts ovate, 3/4 inch long, 7 lines diam. Leaves small, roundish ovate, very spiny, 1/2-1 inch long.
- Quercus macdonaldii, type in Acad. Sci. = Engelmanni var macdonaldii.
- Quercus elegantula, in hb.
- Quercus alvordiana, type. My notes on type in Field Trees Cal. under Jepson, 1908.

Notes on the oak species just-

Berkeley

mentioned above were made in Cal. Acad. Sci, a bundle of the oak types with a few other sheets (like Palmeri) being brought me from the Safe Deposit. — This visit was made sometime in latter part 1908, the record here being a strict copy of actual notes.

Dec. 11, 1909.

— Mr. Richter (Agr.), the bee student came in, re. common names of some San Joaquin honey-yielding plants. Had no specimens.

Blue Curls* = Trichostema lanceolatum

Jackass Clover = ? Wislizenia refracta!

Alkali Weed = Sida hederacea.

Yellow Top = Hemizonia sp. "One of the Tarweeds."

Ball, Button, Black Sage all three names used indifferently by bee-keepers in Southern California.

* Yields a clear honey, almost as clear and white as milk. Candies quickly. over —

Berkeley

He remarked that the honey men were not to be relied on as to statements regarding the origin of a particular honey. They do not watch their bees closely. Nectar is produced in abundance or sparingly according to seasonal conditions. One year will witness a great yield of sunflower honey; another will see no sunflower honey to speak of, but a great yield of Phacelia honey. The beekeepers at Ventura call one of the Phacelias caterpillar Phacelia because the coiled spikes look like a caterpillar. (Richter, Max Clemens).

Dec. 11, 1909.

"White alkali [weed] is an extremely free and reliable bloomer at any season favorable to its reaching warm weather, it is not a copious producer of nectar as basswood, the sages and some other plants". — W. A. H. Gilstrap of Ceres in Pac. Rur. Press, Nov. 13, 1909 who combats the view of J. M. Doolittle that bees fly as far as four miles for honeydew. He says 3/4 mile is about outside limit.

What is his "basswood".
= Tilia americana (Linden) teste Gilstrap in litt, Jan. 10.

Berkeley

- Pinus Torreyana, San Diego co. seeds = cots = 12, 13, 12, 11, 12, 12 - counts made July 2, 1905
- Pinus sabiniana, St. Helena, seeds = cots = 13, 12, 17, 11 - counts made June 19, 1905.
- Pinus muricata, Inverness, seeds = cots = 6, 6, 7, 7, - counts made June 17, 1905.

- "Sequoia gigantea - a lot of seedlings fruited when about 3 ft. high - say every other tree - thirty odd years ago. The old trees on the grounds & the trees at my house came from this lot of seedlings. My trees have never had a cone on them in the thirty years. — E.W. Hilgard.
- Development of Botany in California. Dr. Chipman in. ℄ M.M.

1909.

Trans. Cal. State Med. Soc. in 1891. (See Pamphlets on Cal. Botany. Bancroft Library.)

- Santa Cruz & Monterey Cos, Wild Flo & Ferns of, in "Ill. Handb. Santa Cruz & Monterey Cos." - 1880 - (See Bancroft Library.)
- "Big Trees of Calif": p. 57 of Hist. of Santa Cruz Co., 1879. An acct. of the "Big Trees" at Felton and at Calaveras & Mariposa groves.
- Monterey Pine. "Near the shore are an infinite number of very large pines, straight and smooth, fit for masts and yards, likewise oaks of a prodigious size for building ships. xx xx. Here likewise are rose trees, white thorns, firs, willows, poplars; large clear lakes and fine pastures and arable lands." — Viscayno, Dec. 1602. This is the first reference to the Monterey Pine.
- Sequoia sempervirens. Crespi first (1769) to note the Palo Colorado (Bayano River). Look up his narrative and the second narrative also. See p. 181.

Berkeley.

Paleobotanical Literature

- Sequoia. cf.
  Lesquereux, Flora of the Dakota Group (71).
  " Cretaceous Flora (74)
  " Cretaceous & Tertiary Flora. (1878)
  " Tertiary Flora. (1878).
  I. Hel, Traité Palaeontolog. vol. 5 (Bot.).
  Schimper. Paléontologie Veg.
- Flora of the Tertiary Auriferous Gravels of the Sierra Nevada, Summary of, by Lindgren in U.S. Geol. Surv. Prof. Paper 73. flora by Knowlton, p. 57.
- Lesquereux, Fossil Plants of the Aur. Gravel Dep. of Sierra Nev. (Mem. Mus. Comp. Zool. Harvard. vol. 6. no. 2, 1878).
- Ward, Types of the Laramie Fl.

- Knowlton, Fossil Fl. John Day Basin
- Newberry, — Later Extinct Floras, Mmog. U.S. Geol. Surv. vol. 35.
  — Ill. of Cret. & Tert. Plants of Western Terr. U.S. (Wash. 1878)
- Knowlton. Cat. of the Cretaceous & Tertiary Plants of N. Am. (Bull. U.S. Geol. Surv. no. 152. 1898).
- Knowlton, Flora of the Montana Formation, l.c. no. 163. 1900
- Ward, L.F. Geog. Distrib. Fossil Plants (U.S. Geol. Surv. 8th Rep. p. 663. 1889.)

Berkeley

Evolution

By Langdon Smith.

When you were a tadpole and I was a fish,
In the Paleozoic time
And side by side on the ebbing tide
We sprawled through the ooze and slime,
Or shuttered with many a caudal flip,
Through the depths of the Cambrian fen,
My heart was rife with the joy of life
For I loved you even then.

Mindless we lived and mindless we loved,
And mindless at last we died;
And deep in the rift of the Labrador drift,
We slumbered side by side.
The world rolled on in the lathe of time,
The hot lands heaved amain,
Till we caught our breath from the womb of death,
And crept into light again.

Oct. 1909.

We were amphibians scaled and tailed,
And drab as a dead man's hand,
We coiled at ease neath the dripping trees,
Or trailed through the mud and sand,
Croaking and blind, with our three-clawed feet,
Writing a language dumb.
With never a spark in the empty dark,
To hint of a life to come.

Yet happy we lived and happy we loved,
And happy we died once more;
Our forms were rolled in the clinging mould,
Of a Neocomian shore.
The aeons came and the aeons fled,
And the sleep that wrapped us fast,
Was riven away in a newer day,
And the night of death was past.

Berkeley

Then light and swift through the jungle trees,
We swung in our airy flights,
Or breathed in the balm of the fronded palms
In the hush of the moonless nights.
And oh! what beautiful years were these,
When our hearts clung each to each;
When life was filled and our senses thrilled
In the first faint dawn of speech.

Thus life by life and love by love
We passed through the circle strange,
And breath by breath and death by death,
We followed the chain of change
Till there came a time in the law of life.
When over the nursing sod
The shadows broke and the soul awoke
In a strange dim dream of God.

Oct. 1909.

I was thewed like an Auroch bull,
And tusked like the great Cave Bear;
And you my sweet from head to feet,
Were gowned in your glorious hair.
Deep in the gloom of a fireless cave,
When the night fell o'er the plain,
And the moon hung red o'er the river bed,
We mumbled the bones of the slain.

I flaked a flint to a cutting edge,
And shaped it with brutish craft,
I broke a shank from the woodland dank,
And fitted it head and haft.
Then I hid me close by the reedy tarn,
Where the Mammoth came to drink;
Through brawn and bone I drave the stone,
And slew him upon the brink.

Berkeley

Loud I howled through the moonlit wastes,
Loud answered my kith and kin;
From west and east to the crimson feast,
The clan came trooping in.
O'er joint and gristle and padded hoof,
We fought and clawed and tore,
And cheek by jowl with many a growl,
We talked the marvel o'er.

I carved that fight on a reindeer bone,
With rude and fairy hand,
I pictured his fall on the cavern wall,
That men might understand.
For we lived by blood and the right of might,
Ere human laws were drawn,
And the Age of Sin did not begin,
Till our brutal tusks were gone.

Oct. 1909.

And that was a million years ago,
In a time that no man knows;
Yet here tonight in the mellow light,
We sit at Delmonico's;
Your eyes are as deep as the Devil's Spring,
Your hair is as dark as Jet-
Your years are few, your life is new
Your soul untried, and yet,

Our trail is on the Kimmeridge clay,
And the scarps of the Purbeck flags,
We have left our bones in the Bagshot stones,
And deep in the Coralline crags;
Our love is old, our life is old,
And death shall come amain;
Should it come today what man shall say,
We shall not meet again.

Berkeley

God wrought our souls from the Tremadoc beds,
And furnished them wings to fly;
He soured our spawn in the worlds dim dawn,
And I know that it shall not die,
Though cities have sprung above the graves
Where the crook-boned men made war,
And the ox-wain creaks o'er the buried caves,
Where the mummied mammoths are.

Then as we linger at luncheon here,
O'er many a dainty dish,
Let us drink anew to the time when you
Were a Tadpole and I was a Fish.

Oct. 18, 1909.

– Mr. Geo. D. Butler, abut 57 years old, 5 ft 4 inches, heavy set, mustache, botanist of Siskiyou Co. Came in today. He has been sending me plants. For 25 years he has not touched plants having to earn a living for his family. As he expressed himself when seeing a specimen of the Sadler Oak, "Yes I saw that 20 years ago but I wouldn't touch a leaf!" Now he is giving himself up to botany as he did when he was young and corresponded with

Berkeley

Engelman who named for him Isoetes butleri (Bot. Gaz, vol. 3, p. 1 or thereabouts since I quote from memory) and whom he visited at St. Louis. But when Engelman came through Siskiyou on the stage in 1885 and wrote him to meet him at [Berryville] at the base of Shasta he ignored the summons and wouldn't go! He knew he could not resist botanical entanglements! Engelmann had Sargent with him.

Not having gone to meet Engelmann in that occasion, I was in

Oct. 18, 1909.

consequence the second botanist Butler had ever talked with in his life! I introduced him to Prof. Setchell who told the story of Engelmann in S. Calif. "He went out with Parish to see Opuntia Bigelovii. He was enraptured and bowed up and down before it saying Oh Bigelovii Bigelovii, and not noticing what he was doing in his semi-genuflexions before it backed into another behind him. Parish fried him out with a fence board and spent the

Berkeley

rest of the afternoon picking thorns out of his flesh."

Butler says there is another Prunus subcordata which is very different from the ordinary one, better flavored and more meat.

– Greene used to say that one did not need many specimens to write a flora. He was better not to have too many. [If you want to make new species this is true; but it is also true that one may become swamped with specimens and notes, and that his time will nearly all be killed in mech. arranging.]

Oct. 1909.

– Umbellularia californica. Laurel for shoe-last, fancy cabinet-work, and stave timber. Cf State Cal. Agr. Rep. 1874, p. 403.

– Sycamore at San Jose. "Trees always inclined at an angle, never strictly erect, sometimes the branch parallel with the ground for 40 or 50 ft.; sometimes 2 great forks, one horizontal and one at an angle. Immense branches for size of crown. No ball. Balls formed in June & July & fall acc. to resident – H.P. Chandler about 1902.

Berkeley

– Sugar Pine in outer Coast Range. Fred Koch says: Going from Cloverdale over to Gualala River we passed near Mendocino Line where found Sugar Pine on Buckeye Creek which is a tributary of the Gualala. I also found it within 50 feet of Redwood! Lowest altitudes 500 ft. He now comes in and tells me more specifically: Saw it north of Buckeye Creek at a point about 3 mi. N. of Annapolis, in Sonoma Co. about 1 mile from the Mendocino boundary. Alt= 1000 feet! – Jan. 29, 1910.

Jan. 1910.

– Californian explorers – Wislizenius – Cf. Pop. Sci. Mo., Mar. 1909. Paper by Perley Spaulding, see Separate File. Nuttall, Engelmann and others form part of the sketches.

– "Jackass Clover", spreading rapidly around Fresno, tall, like a mustard, three-leaf. Spreading tremendously. Did not do well last year! but year before did splendidly. Beekeepers got tremendous yield. Tons & tons of honey. Only plant which yields a pure white honey in fall." = Max C. Richter. It is my opinion that this is Wislizenius refracta! – W.L.J!

Cont. from bottom p. 165. Clue to this note was obtained in Dr. Samuel Willey's chapter in Hist. Santa Cruz Co. (1879). Bancroft Library. Best look up Bancroft's Hist. Cal.

Berkeley

— wind and trees. The great gale described on next page is referred to in S.F. daily papers (Chronicle, etc). It is a fact that when the gale was very high in Berkeley there was no wind on the bay. The localization of high winds is a singular matter and of interest in relation to the distribution.

The oaks (on the University grounds) which went down are being sawed up. They are rather punky and age rings are not easy to determine. The westerly tree is apparently not over 80 years of age.

Dec. 18, 1909.

— wind. Great gale of North wind on Monday night, Dec. 12, and Tuesday night, Dec. 13. Very violent. The oak near the Dana st bridge (described in detail on next page) went down at about 3 o'clock am Monday; the second one fell about 1:30 pm same day. That morning at 10:00 am the patent chimney went off my house. A great eucalyptus was blown down at Prof. Moses', many Acacias on the grounds badly torn or injured; a good deal of minor damage. [Setchell says 4 more smaller oaks went down.]

Berkeley

Dec. 18, 1909

– Quercus agrifolia Née. University grounds. Two large trees, fell just west of Dana St. bridge and south of the drive towards football statue. One had been "ailing" a long time; seemed half-dead; its branches with no branchlets or few, merely twiggy. After it had fallen over it showed little root-system, having been attached by dry rot at base of trunk. The foot path of gravel ran along one side (north side) the tree. There were no roots on this side. Long ago destroyed by tramping! of feet. See prev. page.

Oct. 8. 1909.

– Gamble, Dr. Wm. Cf. Jour. Phil. Acad. 2d ser. vol. 1, pp. 27, 26, 31, 149, etc.

– Miss Eastwood, met her on the central walk, she going up to Herb. Said she had for two mos. been visiting friends in Cal, having a good time and collecting at Tahoe and Santa Barbara. Said she might return East in a week. Effusively greeted me, said she had not seen me in a year (!), and (on parting) that I was looking well (!!!) And all this after denouncing me to a University Officer!

Berkeley

- Miss S. I. Gibbs, London, Eng. Member of the Linnean Soc. Took her in a trip to Mt. Tamalpais, to top of mt. and to Muir Woods. She expressed herself as delighted with the chapparal and with the splendid trees in Redwood Canon. She has hairled in Australia, New Zealand, Fiji Isl, Africa, etc, etc, but this is her first visit to America. She says: "In New Zealand they have gone mad on democracy. The government sells no land any more but leases on long leases. Consequently there is no real interest and care for

3 October, 1909.

the land. Each man tries to get as much out of it as he can. Moreover there is no individual enterprise in such extreme democracy. No man is going to improve lands for others, is he? Original owners are limited to 5000 acres. I think the limit will in time be lowered.

They are cutting off the forest (which they call "the "bush") as they can. The country is (fast as) of pointed clay hills. So when the forest is off it doesn't look much, does it? Pointed clays do not look

Berkeley

pretty. But covered with
woods they are splendid.
After the bush is all cut
away then each settler
plants about his place
Monterey Pine and Monterey
Cypress. Always these
two. The result is the
whole country is covered
with a set off into
little squares of these
trees. They are always
planted as wind-screens.
They grow very fast.
In four or six years they
form a perfect screen.
In sixteen or twenty
years they are large
trees. They make a truly

3 October, 1909

wonderful growth. The
Kauri trees are not protected.
The natives fire them for the
pleasure of seeing them burn.
The pitch on the trunks is
fired. The devil lives in
the dark heartwood and he
is therefore driven back
into the trunk. The natives
also go out of their villages
at sunset and with
a vessel of water sprinkle
each path leading into
the village. The devil,
therefore, can not get in.
No, I have not travelled in
South America. I dont know
Spanish and one doesnt
enjoy a country unless one

Berkeley

knows the language, does one? In Germany or France I am all right. Even in Italy after a few days you know, I don't know Jim there, do I? And so in Germany, the Germans don't know Jim English from my German speech. The German organization is superb. Each man from the Emperor down is trained to do a certain thing. All municipal, provincial government is in the hands of trained men specially educated and fitted for that thing. They are specialists. In fact their political system

3 Oct. 1909.

and commercial systems simply duplicate their military system. Germany is preparing for war with England. She can fight England with her army. Germany cannot afford to go to war with a country in which she would have to call out her Landwehr for then her industrial organization would fall to pieces. There is both great strength and weakness in her system. All her professions, law, medicine, etc are overcrowded.

The Anglo-Saxon system is individualistic. Our organization is nothing against Germany. Compare the officials. They

Berkeley

are nearly always men not trained or fitted for that particular thing. Even commissions are not made up of experts. Officials or commissions use experts, call them in for information, but the experts have no power and can only give advice.

Eg. this ficiensis is a splendid tree. I should think you ought to have a good botanic garden in Berkeley. A botanic garden ought to show the plants of the country, to show which are worth cultivation and which not; to show the people the plants of their own

3 Oct; 1909.

country; and to give to visitors and traveling botanists an idea of the flora of the country. A traveling botanist wants to see brought together the best and most interesting plants of a country. He hasn't time to go all over every country, has he? Yet no botanic garden, scarcely, does this. I nearly always avoid the botanic gardens. They have a lot of plants from everywhere which mean nothing at all.

Anatomists and morphologists have no idea of the

Berkeley, 3 Oct, '09.

difficulties of systematic botany and the amount of time and wide experience necessary to work. Those people have an easy time. Nor can I understand those people who go at plant geography without any knowledge of systematic botany. Have their plants determined by some one else! Fancy it! They don't get at the real thing. They can't. They are going at it the wrong way around.

I was amazed that they smoke in the Kerbarium at the Garden at Steglitz. The English never do that".

Vacaville, 1909.

Eschscholtzias, marked with plain spikes near Geo. Davis ranch.

"Enclosed" railway land. n. side of track.

1 plant, ½ way betw 2/8 SA + 2/9.
1 " , 12 ft. w. SW of 2/9
5 " , in a cluster 30 ft. w. of 2/9 and 6 to 8 ft. from fence.
3 " , 5 to 8 ft. w. of 1/17 S.E.
1 " , 10 ft west of 1/16, on bank
2 " , " " " " " , close together and 5 ft. from fence.
1 " , ‡ near + just east of, n. side r.r.
1 " , 30 ft east of 2/4 + n. side r.r. track
1 " , 1/23 "
1 " , 1 by old post-stump
1 " , between last + tel. pole west.
1 " , 3/1 south of wagon road.
1 " , " n. side bank. Cont p. 197

Berkeley.

– Phyllophora clevelandii, Farlow. Cf Zoe. 2, 223. In honor of Daniel Cleveland

– Hansen, Jos. Resigned from Foothill Station, Nov. 1, 1896.

– Bidwell, John. Address before State Agr. Soc. in Trans. State Agr. Soc. 1867.

– Eurotia lanata. Cf. Agr. Rep. U.S., 1887, p. 302.

– "Please don't use such a word as shabby between you and me. The only shabbiness I could possibly locate between you and me would be the seat of our pants. And they are below our horizons. So let there be peace. – Jos. Hansen, in lett. to Chas. A. Murdock, Feb. 3, 1908.

Middle California Addresses.

– Douglas (!) (?) (?), J.M., Supt San Emigdio Ranch, Bakersfield (Kern Co. Land Co.)

– Miss Alice King, 896 Chestnut st, S.F.

– Miss Ida Johnson, painter of wild flo. Carmel.

– Vicente Martinez, Walnut Creek (the barber).

– A.W. Hinchs, with Morse Seed Co., Market st., store.

– Wallace Drinmore, atty, Marysville sent Hyp. concin. as poisonous.

Cont. from p. 195.

1 plant, N side R.R., 1/32 halfway to ?1/33

" " " " ", one near and just east of 1/32.

" " , 2/4, 30 ft. East, N. side R.R. track.

San Luis Obispo Addresses

- Judge E. P. Unagast
- LeRoy Smith, Director Polytechnic
- Condit, Botany " "
- , Vice-Director "
- Dibblee, Bank San Luis Obispo
  (Santa Barbara Dibblee

Watsonville Addresses.

- Mawry, Cashier Pajaro Valley Bank
- E. R. Porter, Pres. " " "
- Hall, Pres. Chamber Commerce
- Greeder, Secy Board of Trade
- Wyckoff, Undertaker, brother Berkeley Wyckoffs
- Morris Tuttle, walking man, sister married Robt Cray & Son,

Ojai Valley Addresses.

- C. H. Pratt, Nordhoff, Cal
- F. F. Merrill " "
- H. L. Scott " "
- O. W. Robertson " "
- Senear McAndrew " "
- H. W. Forsler " "
- F. W. Hubby " "
- Edward Thacher " "
- E. P. Barrows " "
- J. H. Dennison " "

"much of the South Sea must be land, otherwise the earth would not be properly balanced, — till we know how this globe is fixed we need not be so anxious to give reasons why any one part of it counterbalances the rest." — Sir Joseph Banks, Journal, p. 67.

Addresses — S. Calif.

- Judge E. P. Unagast, Superior Judge, San Luis Obispo, Calif.
- Miss E. Palmer, 1741 Harvard Boulevard, Los Angeles.
- Ernest Braunton, Rural Californian, Los Ang.
- Dr. A. Davidson, 544 Wilcox Bldg, "
- Grant, Geo. B., 637 Summit Ave., Pasadena.
- Dr. R. E. C. Steams, 1025 E 18th st., Los Angeles, Calif
- W. T. Craig, Suite 322 Bullard Bldg, L.A.
- Dr. A. G. L. Trew, 146 E. ave 56, L.A.
- Mr. J. H. Dennison, Nordhoff, Ojai valley.
- Dr. Walter Lindley, 1414 S. Hope st., L.A.
- Mr. Geo. B. Grant, 637 Summit ave, Pasadena.
- Theo. Payne, 345 S. Main st., L.A.
- Mr. Hector Alliot, 1720 West 8th st., Los Angeles. Artist who is vastly and aggressively interested in the protection of Los Angeles street trees.
- W. D. Ingham, Santa Monica Forestry Station
- W. L. McAtee, U.S. Biol. Surv. duck fod.

Bark dark brown rugby furrowed the ridges anastomosing
Drains walnut

4 ft 1 in - 60 ft

5 ft diam on bankside, 4 limb (at 6 ft creek side)
14 to 20 inches diam, 70 ft h.
10 ft 3 in at 3 ft 65 ft h (smaller at ground)
1 ft diam 55 h
10 inches 55 ft
5 ft 5 in - 45 ft

All straight tall trunks.

Photos of Windblown Trees at Cordelia, Aug. 16, 1908.

← no 1. walnut 1/25 8 300
no 2 valley oak " 300
" 3 mont. cypress 1/25, 8

no. 4. " 1/25, 16
no 5 " 1/5, 16
" 6, " 1/5, 8

In India bad manners are a political crime - John Morley.